Environmental Assessment Checklist

Project Name: Snow Tepee Timber Sale
Proposed Implementation Date: May 2022
Proponent: Dillon Unit, Central Land Office, Montana DNRC
County: Madison

Type and Purpose of Action

Description of Proposed Action:

The Dillon Unit of the Montana Department of Natural Resources and Conservation (DNRC) is proposing the Snow Tepee Timber Sale The project is located 29 air miles east of West Yellowstone, Montana (refer to Attachments vicinity map A-**1** and project map A-**2**) and includes the following sections:

Beneficiary	Legal Description	Total Acres	Treated Acres
Common Schools	**T 13S, R 1W, Sections 1, 2, 3, 4, 10, 11**	**3,696**	**279**
Public Buildings			
MSU 2nd Grant			
MSU Morrill			
Eastern College-MSU/Western College-U of M			
Montana Tech			
University of Montana			
School for the Deaf and Blind			
Pine Hills School			
Veterans Home			
Public Land Trust			
Acquired Land			

Objectives of the project include:

- Sanitize forest stands of insects and disease infected trees
- Promote forest resilience while reducing the probability of uncharacteristically severe wildfire
- Emulate historic disturbance regimes to promote future stand structure and species composition that would be similar to historic conditions
- Generate revenue for the Common School Trust through timber harvest

Proposed activities include:

Action	Quantity
Proposed Harvest Activities	# Acres
Clearcut	132
Seed Tree	52
Shelterwood	
Selection	70
Old Growth Maintenance/Restoration	
Commercial Thinning	
Salvage	
Overstory Removal	26
Total Treatment Acres	**279**
Proposed Forest Improvement Treatment	# Acres
Pre-commercial Thinning	
Site preparation/scarification	
Planting	
Proposed Road Activities	# Miles
New permanent road construction	
New temporary road construction	2.93
Road maintenance	9.0
Road reconstruction	
Road abandoned	
Road reclaimed	
Other Activities	

Duration of Activities:	Year-round
Implementation Period:	May 2022

The lands involved in this proposed project are held in trust by the State of Montana. (Enabling Act of February 22, 1889; 1972 Montana Constitution, Article X, Section 11). The Board of Land Commissioners and the DNRC are required by law to administer these trust lands to produce the largest measure of reasonable and legitimate return over the long run for the beneficiary institutions (Section 77-1-202, MCA).

The DNRC would manage lands involved in this project in accordance with:

- The State Forest Land Management Plan (DNRC 1996),
- Administrative Rules for Forest Management (ARM 36.11.401 through 471),
- The Montana DNRC Forested State Trust Lands Habitat Conservation Plan (HCP) (DNRC 2010)
- and all other applicable state and federal laws.

Project Development

SCOPING:

- DATE:
  - June 29, 2020
- PUBLIC SCOPED:
  - The scoping notice was posted on the DNRC Website: http://dnrc.mt.gov/public-interest/public-notices
  - Statewide Scoping List
  - Adjacent Landowners
  - Local News Outlets including the Dillon Tribune, Madisonian, and Montana Standard
- AGENCIES SCOPED:
  - U.S. Fish and Wildlife Service, U.S. Forest Service, Bureau of Land Management, MT Fish, Wildlife, and Parks, and Beaverhead County
  - Fort Peck Assiniboine and Sioux Tribes, Confederated Salish and Kootenai Tribes, Blackfeet Tribe, Chippewa Cree Tribe, Fort Belknap Tribe, Northern Cheyenne Tribe, and Crow Tribe
- COMMENTS RECEIVED:
  - How many: Four public comments were received, including two comments from MT FWP, one comment from an individual from The Nature Conservancy and one comment from the THPO of the Northern Cheyenne Tribe.
  - Concerns:
    - The first comment received from MT FWP inquired about previous sales in the Tepee Creek area.
    - The second comment from MT FWP was a letter stating that FWP had no comments or concerns related to the proposed project.
    - The individual from The Nature Conservancy inquired about the species composition of the timber stands within the proposed treatment areas, and whether DNRC will impose stipulations to retain an undefined portion of large diameter trees and snags.
    - The THPO for Northern Cheyenne Tribe requested more information regarding cultural resources through a Class I or Class III report.
  - Results:
    - DNRC responded to the first comment from MT FWP by providing information on previous projects in the general area of the proposed timber sale. The second comment from MT FWP did not require response from DNRC.
    - DNRC responded to the comment from The Nature Conservancy by explaining that large diameter trees and snags will be retained in accordance to Montana's Administrative Rules for Forest Management. DNRC explained there is requirement to retain a minimum of 1 snag and 1 snag recruit per acre, or given a lack of snags, 2 snag recruits per acre of the largest size classes available in either scenario. DNRC also explained that trees with obvious signs of wildlife use may also be retained.
    - DNRC provided the THPO for Northern Cheyenne Tribe with the Cultural Resource Reports generated from the Trust Lands Management System

data base. The reports did not reflect any potential impacts to known cultural resources. Additionally, a Class I review was conducted by the DNRC staff archaeologist for the area of potential effect (APE), which did not identify any cultural or paleontological resources.

DNRC specialists were consulted, including:
Jeff Schmalenberg, Resource Management and Planning Section Supervisor
Mike Anderson, Fisheries Biologist
Emilia Grzesik, Forest Management Planner
Patrick Rennie, Archaeologist

Internal and external issues and concerns were incorporated into project planning and design and will be implemented in associated contracts.

OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED: *(Conservation Easements, Army Corps of Engineers, road use permits, etc.)*

- **United States Fish & Wildlife Service-** DNRC is managing the habitats of threatened and endangered species on this project by implementing the Montana DNRC Forested Trust Lands HCP and the associated Incidental Take Permit that was issued by the United States Fish & Wildlife Service (USFWS) in February of 2012 under Section 10 of the Endangered Species Act. The HCP identifies specific conservation strategies for managing the habitats of grizzly bear, Canada lynx, and three fish species: bull trout, westslope cutthroat trout, and Columbia redband trout. This project complies with the HCP. The HCP can be found at http://dnrc.mt.gov/divisions/trust/forest-management/hcp.

- **Montana Department of Environmental Quality (DEQ)-** DNRC is classified as a major open burner by DEQ and is issued a permit from DEQ to conduct burning activities on state lands managed by DNRC. As a major open-burning permit holder, DNRC agrees to comply with the limitations and conditions of the permit.

  A Short-term Exemption from Montana's Surface Water Quality Standards (318 Authorization) may also be required from DEQ if activities such as replacing a bridge on a stream would introduce sediment above natural levels into streams.

- **Montana/Idaho Airshed Group-** The DNRC is a member of the Montana/Idaho Airshed Group which was formed to minimize or prevent smoke impacts while using fire to accomplish land management objectives and/or fuel hazard reduction (Montana/Idaho Airshed Group 2010). As a member, DNRC must submit a list of planned burns to the Airshed Group's Smoke Monitoring Unit describing the type of burn to be conducted, the size of the burn in acres, the estimated fuel loading in tons/acre, and the location and elevation of each burn site. The Smoke Monitoring Unit provides timely restriction messages by airshed. DNRC is required to abide by those restrictions and burn only when granted approval by the Smoke Monitoring Unit when forecasted conditions are conducive to good smoke dispersion.

- **Montana Department of Fish, Wildlife and Parks (DFWP)-** A Stream Protection Act Permit (124 Permit) is required from DFWP for activities that may affect the natural shape and form of a stream's channel, banks, or tributaries. Such activities include:

- Improvement of an existing drive-thru ford to meet BMP's for water quality protection.

ALTERNATIVES CONSIDERED:

No-Action Alternative: Timber harvest would not occur and no revenue would be generated for the Common School Trust. The road system would not be upgraded to meet Best Management Practices (BMP's).

Action Alternative: Approximately 1.6 million board feet of timber would be harvested from 279 acres and would generate income for the Common School Trust. Access to the project area would be improved by upgrading roads to meet BMP's. Forest health and vigor of the residual forest would be improved.

Impacts on the Physical Environment

Evaluation of the impacts on the No-Action and Action Alternatives including **direct, secondary, and cumulative** impacts on the Physical Environment.

VEGETATION:

Vegetation Existing Conditions:

Harvest Unit	Habitat Group	Fire Regime	Current Cover Type	Age Class (years)	DFC	RX	Acres
1	Warm and moist (eastside)	Mixed	Douglas Fir	40-99	Douglas Fir	Seed Tree	22
2	Warm and dry (eastside)	Mixed	Douglas Fir	40-99	Douglas Fir	Individual/Select Tree Harvest	9
3	Warm and dry (eastside)	Mixed	Douglas Fir	40-99	Douglas Fir	Individual/Select Tree Harvest	12
4	Warm and dry (eastside)	Mixed	Douglas Fir	0-39	Douglas Fir	Individual/Select Tree Harvest	13
5	Warm and dry (eastside)	Mixed	Douglas Fir	0-39	Douglas Fir	Clear Cutting	24
6	Warm and dry (eastside)	Mixed	Lodgepole Pine	100-149	Douglas Fir	Individual/Select Tree Harvest	10

7	Warm and dry (eastside)	Mixed	Lodgepole Pine	100-149	Douglas Fir	Clear Cutting	33
8	Warm and dry (eastside)	Mixed	Subalpine Fir	100-149	Douglas Fir	Individual/Select Tree Harvest	6
9	Cool and dry to moist (eastside)	Mixed	Lodgepole Pine	40-99	Douglas Fir	Clear Cutting	59
10	Cool and moist (eastside)	Mixed	Lodgepole Pine	100-149	Douglas Fir	Clear Cutting	4
11	Warm and dry (eastside)	Mixed	Mixed Conifer	150-199	Douglas Fir	Individual/Select Tree Harvest	21
12	Warm and dry (eastside)	Mixed	Mixed Conifer	150-199	Douglas Fir	Seed Tree	15
13	Warm and dry (eastside)	Mixed	Douglas Fir	100-149	Douglas Fir	Overstory Removal	26
14	Cold and dry (eastside)	Mixed	Lodgepole Pine	40-99	Douglas Fir	Clear Cutting	7
15	Cold and dry (eastside)	Mixed	Lodgepole Pine	100-149	Douglas Fir	Seed Tree	9
16	Cold and dry (eastside)	Mixed	Lodgepole Pine	0-39	Douglas Fir	Seed Tree	5
17	Warm and dry (eastside)	Mixed	Douglas Fir	40-99	Douglas Fir	Clear Cutting	5

Fire Hazard/Fuels:
Fuel hazards are exacerbated by high mortality rates throughout the majority of the project area. Insect infestations have led to an abundance of dead-standing and downed timber that poses hazardous fuels conditions. The current arrangement and volume of ground fuels and dead-standing timber dramatically increases probability of uncharacteristically high fire intensity and will pose safety and tactical concerns for fire management operations. The project area is not within the wildland-urban interface, as the nearest municipality, Lima, Montana, is 62 air miles away.

Insects and Diseases:
Mountain pine beetle infestations have resulted in high mortality rates in mature lodgepole pine. Dwarf mistletoe infestations also occur in lodgepole pine. Douglas-bark beetle and associated spruce budworm infestations occur frequently throughout the project area.

Sensitive/Rare Plants:
Painted Milkvetch (Astragalus ceramicus), Fendler Cat's-eye (Cryptantha fendleri), Pale Evening-primrose (Oenthothera pallida ssp. pallida), Mealy Primrose (Primula incana), Alkali-

marsh Ragwort (Senecio hydrophilus), Fleshy Stitchwort (Stellaria crassifolia), Slender Thelypody (Thelypodium sagittatum)

Noxious Weeds:
Canada Thistle (Cirsium arvense), Spotted Knapweed (Centaurea stoebe), Houndstounge (Cynoglossum officinale)

Vegetation	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Current Cover/DFCs			x				x				x		N/A	
Age Class			x				x				x		N/A	
Old Growth	x				x				x					
Fire/Fuels				x			x				x		N/A	
Insects/Disease			x				x				x		N/A	
Rare Plants	x				x				x					
Noxious Weeds	x				x				x					
Action														
Current Cover/DFCs	x				x				x					
Age Class	x				x				x					
Old Growth	x				x				x					
Fire/Fuels		x				x				x			Y	1
Insects/Disease	x				x				x					
Rare Plants		x			x				x				Y	3
Noxious Weeds			x			x				x			Y	2

Comments:

1. Short term fuel accumulations will occur due to logging operations through the harvest of green standing trees. Harvest of dead and downed timber will not result in a net increase in fuel accumulations
2. Timber harvest and associated road work may lead to an increase in the occurrence of noxious weeds.
3. According to a Montana Natural Heritage Species of Concern report, there are seven plant species of concern that may occur in the project area.

Vegetation Mitigations:

1. Excess logging slash that is not necessary for soil erosion mitigation will be piled and burned in accordance to Logging Slash Reduction Laws

2. DNRC plans to complete herbicide treatments of noxious weeds on the state parcel and segments of the access roads on adjacent ownerships to control existing weed infestations. All equipment would be washed and inspected prior to start of work. All new roads would be reseeded to site adapted grass to reduce the threat of noxious weed spread. Project areas would be monitored for noxious weeds after harvest operations are complete and herbicide treatments may be applied if needed.

3. The seven plant species of concern identified by a Montana Natural Heritage Program Report include: Painted Milkvetch (*Astragalus ceramicus*), Fendler Cat's-eye (*Cryptantha fendleri*), Pale Evening-primrose (*Oenthothera pallida ssp. pallida*), Mealy Primrose (*Primula incana*), Alkali-marsh Ragwort (*Senecio hydrophilus*), Fleshy Stitchwort (*Stellaria crassifolia*), Slender Thelypody (*Thelypodium sagittatum*). None of these species are known to be documented in the proposed project area, as they generally do not occur in the understory of coniferous species. According to the MNHP Report, Painted Milkvetch, Fendler Cat's-eye, and Pale Evening-primrose tend to occur on sandy sites. No sandy sites have been identified in the proposed harvest area and are not expected to be impacted by proposed activities. Mealy Primrose, Alkali-marsh Ragwort, and Fleshy Stitchwort occur on wetland and riparian sites. Proposed activities do not include operations on riparian or wetland sites, thereby posing little to no risk of impacting these species. Slender Thelypody is known to occur on sites with high alkalinity. The proposed harvest areas do not occur on alkaline sites. It is expected that the Action Alternative will have little to no impact on the aforementioned species due to a lack of suitable habitat in the project area. If any of these species are found within the project, operational strategies will be modified to minimize impacts to the greatest extent practical. Due to a lack of known occurrence of these species, it is expected that the action alternative will have minimal adverse direct, indirect, and cumulative effects to plant species of concern.

SOIL DISTURBANCE AND PRODUCTIVITY:

Soil Disturbance and Productivity Existing Conditions:

The project area is located on low to moderate slopes with deep soils weathered from a complex geology of limestones and shales atop metamorphic bedrock. Forest soils are moderately productive, deep, and well drained with gravelly loam to clay loam textures. Risk of soil displacement, compaction and erosion is low to moderate if Best Management Practices for forestry are adhered to.

Forest sites are low to moderately productive with predominate limitations being temperature and precipitation. Coarse woody debris volumes are normal for typical Douglas fir stands in this region and were ocularly estimated at 10-15 tons per acre and accumulating in trend.

Previous timber harvest in the project area was completed using traditional ground-based yarding methods. Detrimental soil disturbance was observed during field review result in an aerial extent of less than 10% and no loss of soil productivity was observed in the project area. Previous harvest units were moderate to well stocked.

Soil Disturbance and Productivity	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Physical Disturbance (Compaction and Displacement)	**x**				**x**					**x**				

Soil Disturbance and Productivity	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
Erosion	**x**				**x**				**x**					
Nutrient Cycling	**x**				**x**				**x**					
Slope Stability	**x**				**x**				**x**					
Soil Productivity	**x**				**x**				**x**					
Action														
Physical Disturbance (Compaction and Displacement)		**x**				**x**				**x**			**Yes**	**1**
Erosion		**x**			**x**				**x**				**Yes**	**1**
Nutrient Cycling		**x**				**x**			**x**				**Yes**	**2**
Slope Stability	**x**				**x**				**x**					
Soil Productivity	**x**				**x**				**x**					

Comments:

1. Physical disturbance from compaction and displacement would be expected on skid trails and landings. Past monitoring on DNRC timber sales from 1988 to 2010 has shown an average of 12.2 percent soil impacts across all parent materials. Sales harvested prior to 1990 exhibited impacts of 16.8 percent; sales harvest post-1990 showed impacts averaging 7.3 percent of the harvest area. This provides a strong relationship to the implementation of Forestry Best Management Practices (BMPs) and the Streamside Management Zone (SMZ) law. Detrimental soil impacted are expected on less the 20% of the harvest unit acres and soil productivity will be maintained. Erosion on disturbed soils and skid trails can be mitigated and controlled with standard soil and water conservation (BMP) techniques and practices.

2. Coarse and fine woody debris provide a crucial component in forested environments through nutrient cycling, microbial habitat, moisture retention and protection from mineral soil erosion (Harmon et al., 1986). As required in the DNRC Timber Sale Contract, both fine and coarse woody debris would be retained to reduce potential impacts to forest productivity. Although fine woody debris would be left on site for nutrient retention, a moderate reduction in annual fine material contribution would result from this alternative for up to 20 years.

Soil Mitigations:

1. Limit equipment operations to periods when soils are relatively dry, (less than 20 percent oven-dried weight), frozen, or snow-covered in order to minimize soil compaction and rutting and maintain drainage features. Check soil moisture conditions prior to equipment start-up.

2. The logger and sale administrator would agree to a skidding plan prior to equipment operations. Skid-trail planning would identify which main trails to use and how many additional trails are needed. Trails that do not comply with BMPs (i.e. trails in draw

bottoms) would not be used unless impacts can be adequately mitigated. Regardless of use, these trails may be closed with additional drainage installed, where needed, or grass-seeded to stabilize the site and control erosion.

3. Tractor skidding should be limited to slopes of less than 40 percent unless the operation can be completed without causing excessive displacement or erosion. Based on site review, short, steep slopes may require a combination of mitigation measures, such as adverse skidding to a ridge or winchline, and skidding from more moderate slopes of less than 40 percent.

4. Keep skid trails to 20 percent or less of the harvest unit acreage. Provide for drainage in skid trails and roads concurrently with operations.

5. Slash disposal: Limit the combination of disturbance and scarification to 30 to 40 percent of the harvest units. No dozer piling on slopes over 35 percent; no excavator piling on slopes over 40 percent, unless the operation can be completed without causing excessive erosion. Consider lopping and scattering or jackpot burning on the steeper slopes. Consider disturbance incurred during skidding operations to at least, partially provide scarification for regeneration.

6. Retain 10 to 15 tons of large woody debris and a feasible majority of all fine litter following harvesting operations. On units where whole tree harvesting is used, implement one of the following mitigations for nutrient cycling: 1) use in-woods processing equipment that leaves slash on site; 2) for whole-tree harvesting, return-skid slash and evenly distribute within the harvest area; or 3) cut tops from every third bundle of logs so that tops are dispersed as skidding progresses.

WATER QUALITY AND QUANTITY:

The majority of the Snow Tepee project area resides in the Tepee Creek watershed (HUC 100200010103) which is approximately 25 mi^2 in drainage area that contributes waters to Upper Red Rock Lakes. Average annual precipitation is 25 inches with the majority of precipitation falling as seasonal snowpack. The watershed is 7% forested with primary land ownership being DNRC (47%), Federal (28%) and private ownership (22%).

Water use for this watershed is classified in rule by DEQ as B-1. Waters classified B-1 are to be maintained suitable for drinking, culinary, and food processing purposes, after conventional treatment; bathing, swimming, and recreation; growth and propagation of salmonid fishes and associated aquatic life, waterfowl and furbearers; and agricultural and industrial water supply. Tepee Creek is not listed on the impaired water list for the 2020 303d listing cycle.

Water Quality and Quantity Existing Conditions:

No class 1, perennial streams are present in the project area. All streams in the project area exhibit seasonal flow regimes that flow less than 6 months of the year. One existing sediment delivery site was documented during project review in September of 2020. The sediment delivery site was an existing, unimproved ford crossing. Approximately 200 feet of existing two-

track road had direct delivery to this location, delivering minor sediment loads to an intermittent stream channel. This site will be addressed during timber sale activities to meet BMP's for forestry. No cumulative effects to water quality or quality from historical forest management or grazing operations was evident.

Water Quality & Quantity	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Water Quality	**x**				**x**				**x**				**N/A**	
Water Quantity	**x**				**x**				**x**				**N/A**	
Action														
Water Quality		**x**			**x**				**x**				**Yes**	**1**
Water Quantity	**x**				**x**				**x**				**N/A**	**2**

Comments:

1. Due to the harvest systems utilized, location of harvest units relative to stream channels, magnitude of new road construction, implementation of Forest Management BMPs and the low precipitation within the project area, there is low risk of direct water quality impacts from the proposed actions. Considering these impacts in combination with past and current activities, the proposed action will result in no cumulative watershed effects in the Tepee Creek watershed.

2. Forest stands are not likely to be a major influence on the hydrology and flow regimes of the streams draining the proposed timber sale area. Many of the trees in the proposed harvest units have been affected by spruce budworm or mountain pine beetle. The proposed harvest is not expected to substantially decrease the levels of canopy interception or evapotranspiration potential within these watersheds relative to the levels under the no action alternative. The levels of harvest proposed are also well below those cumulative levels associated with detrimental increases in water yield. Due to these factors, no direct, secondary or cumulative impacts to water quantity are anticipated under the proposed action.

Water Quality & Quantity Mitigations:

- Best Management Practices for Forestry would be implemented and monitored for effectiveness concurrent with all forest management activities.
- Implementation of Montana Administrative Rules for Forest Management and Streamside Management Zones.
- Ephemeral draw crossings would be kept to a minimum and skidding down topographic convergences (draw bottoms) would be prohibited.
- Major skid trails would be grass seeded, closed with slash and debris and/or barriers, and adequate drainage provided.

FISHERIES:

Fisheries Existing Conditions: During September 2020, a field review was conducted on the proposed Tepee Creek Timber Sale project area. During that time, Tepee Creek and the unnamed Class 2 tributary to Tepee Creek near river mile 7.0 in the project area were dry. Subsequent evaluation of fisheries data and communication with MFWP regional biologists indicated that the project area does not likely support fisheries at this time. Previous environmental analyses (DNRC 1996, DNRC 2004, DNRC 2009) also indicated that both Tepee and Snowshoe Creeks were non-fish bearing.

No-Action: No direct or indirect impacts would occur to affected fish species or affected fisheries resources beyond those described in Fisheries Existing Conditions. Cumulative effects (other related past and present factors; other future, related actions; and any impacts described in Fisheries Existing Conditions) would continue to occur.

Action Alternative (see Fisheries table below):

Fisheries	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Sediment	x				x				x				NA	
Flow Regimes	x				x				x				NA	
Woody Debris	x				x				x				NA	
Stream Shading	x				x				x				NA	
Stream Temperature	x				x				x				NA	
Connectivity	x				x				x				NA	
Populations	x				x				x				NA	
Action														
Sediment	x				x				x				NA	1
Flow Regimes	x				x				x				NA	1
Woody Debris	x				x				x				NA	1
Stream Shading	x				x				x				NA	1
Stream Temperature	x				x				x				NA	1
Connectivity	x				x				x				NA	1
Populations	x				x				x				NA	1

Comments:

1. Based on conditions observed during field review, as well as the proposed activities included in the proposed Action Alternative, fisheries resources are being dismissed for the following reasons:
    - No comments related to fisheries resources were received during the scoping period.
    - No proposed activities have potential to alter the presence, absence, or genetic purity of any native fisheries populations in the project area or associated watershed.

- No construction or modification of existing perennial, fish-bearing streams are proposed in the project area or along the timber haul route, resulting in no impact to fisheries connectivity in the project area or associated watershed.
- Riparian harvest is the primary effect mechanism for reduction in recruitable large wood and stream shading and subsequent indirect effects on stream temperature. No timber harvest is proposed within the riparian management zone along Class 1 fish-bearing streams in the project area, as such there would be no potential effect of either the No Action or Action Alternative on large wood, stream shade, or stream temperature.
- The distance between known fisheries populations in Red Rock Creek and any proposed project activity is greater than 4 miles and appropriate Water Quality mitigations and BMPs would be sufficient to minimize potential downstream effects on any fisheries resources

WILDLIFE:

The project area is dominated by mature Douglas-fir stands and lodgepole pine with lesser amounts of Engelmann spruce and subalpine fir represented. Much of the existing forested area on the project area is present due to range encroachment during the last 150 years. Forested stands make up approximately 34% (1,233 acres) of the project area. Numerous small to moderate-sized snags are found in forested portions of the project area. Coarse woody debris amounts are patchy and high in some locations due to the mature age of stands and recent high mortality. The project area occurs along a forest grassland ecotone that provides habitat for many native song birds, raptors, big game species, and predators. The project area occurs just outside sage grouse "core" habitat, however, conifer stands that would be treated provide no appreciable habitat for sage grouse. No rock outcrop features occur in the project area. Forested stands in the project area occur as fragmented and isolated patches within a broad grassland/shrubland matrix.

For this analysis, direct and secondary effects were considered within the project area (3,679 acres). Cumulative effects were considered for an expanded area (13,990 acres) that included the project area and 16 surrounding sections.

No-Action: Under the no action alternative, none of the proposed vegetation treatments would occur. Thus, no direct, indirect or cumulative effects to habitat and associated species would be expected as a result of the proposed activities. Conifer encroachment would be expected to dominate and potentially replace aspen stands, which could adversely affect wildlife species that use them, such as ruffed grouse and many cavity nesting species.

Action Alternative (see Wildlife table below):

Wildlife	Impact												Can Impact be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
Threatened and Endangered Species														
Grizzly bear		x				x				x			Y	1

Wildlife	Impact												Can Impact be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
(Ursus arctos) Habitat: Recovery areas, security from human activity														
Lynx (*Felis lynx*) Habitat: mosaics--dense sapling and old forest >5,000 ft. elev.		**x**				**x**				**x**			**Y**	**2**
Sensitive Species														
Bald eagle *(Haliaeetus leucocephalus)* Habitat: Late-successional forest within 1 mile of open water	**x**				**x**				**x**				**NA**	**4**
Wolverine (*Gulo gulo*) Habitat: high elevation areas that retain high snow levels in late spring		**x**				**x**				**x**			**NA**	**3**
Black-backed woodpecker *(Picoides arcticus)* Habitat: Mature to old burned or beetle-infested forest	**x**				**x**				**x**				**NA**	**4**
Black-tailed prairie dog (*Cynomys ludoviscianus*) Habitat: grasslands, short-grass prairie, sagebrush semi-desert	**x**				**x**				**x**				**NA**	**4**
Flammulated owl *(Otus flammeolus)* Habitat: Late-successional ponderosa pine and Douglas-fir forest	**x**				**x**				**x**				**NA**	**4**
Greater sage grouse (*Centrocercus urophasianus*)		**x**				**x**				**x**			**Y**	**5**

Wildlife	Impact												Can Impact be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
Habitat: sagebrush semi-desert														
Peregrine falcon *(Falco peregrinus)* Habitat: Cliff features near open foraging areas and/or wetlands	**x**				**x**				**x**				**NA**	**4**
Pileated woodpecker *(Dryocopus pileatus)* Habitat: Late-successional ponderosa pine and larch-fir forest	**x**				**x**				**x**				**NA**	**4**
Fringed myotis (*Myotis thysanodes*) Habitat: low elevation ponderosa pine, Douglas-fir and riparian forest with diverse roost sites including outcrops, caves, mines	**x**				**x**				**x**				**NA**	**4**
Hoary bat (*Lasiurus cinereus*) Habitat: coniferous and deciduous forests and roost on foliage in trees, under bark, in snags, bridges	**x**				**x**				**x**				**NA**	**4**
Townsend's big-eared bat *(Plecotus townsendii)* Habitat: Caves, caverns, old mines	**x**				**x**				**x**				**NA**	**4**
Big Game Species														
Elk		**x**				**x**				**x**			**Y**	**6**
Whitetail	**x**				**x**				**x**					
Mule Deer		**x**				**x**				**x**			**Y**	**6**
Other														

Comments:

1. The proposed project area lies approximately 14 miles west of the Greater Yellowstone grizzly bear recovery zone and within the Non-Recovery Occupied Habitat as defined by Wittinger et al. (2002). Grizzly bears could potentially travel through the project area. Human access levels in this general area are fairly low due to the restricted access on private lands and remote setting. Cover and habitat connectivity associated with riparian areas would not be appreciable altered as no riparian timber harvesting would occur in the project area. Given the size and location of cover patches affected and removed, habitat connectivity would be diminished on 176 acres, however, forest patches in this landscape are relatively isolated. 2.9 miles of new, temporary restricted road would be constructed to access the harvest units and facilitate control of weeds. Thus, some short-term and minor risk, to grizzly bears could occur given this additional road on the landscape for a period of up to 3 years. Given the scope and scale of the proposed activities, adverse direct, indirect and cumulative impacts to grizzly bears as a result of this project are expected to be low.
2. Within the 3,679-acre project area there are currently approximately 678 acres of suitable lynx habitat. Of these 678 acres, 176 would be treated and converted to temporary non-suitable habitat. Thus, approximately 502 acres of suitable habitat (74% of existing) would remain following harvest on the project area. It is estimated that the stands being reduced to temporary nonsuitable condition would take approximately 15-20 years to regenerate to sufficient canopy heights to return these acres to a “suitable” habitat class. Patches of advanced regeneration comprised of shade-tolerant tree species would be retained to provide habitat structure and maintain these tree species in harvested stands. Given that the project area lies along the edge of a grassland/forest ecotone, affected forest patches are relatively isolated, that the acreage treated is relatively small, and that cover, and habitat would be retained for habitat connectivity, minimal adverse direct, indirect, and cumulative effects to Canada lynx would be anticipated.
3. Wolverines could potentially travel through the project area occasionally, however, high elevation persistent snow zones and suitable denning habitat do not occur on the project area or cumulative effects analysis area. Thus, potential for adverse direct, indirect and cumulative effects to wolverines or their habitat would be low
4. This project area is either out of the range of the normal distribution for this species or suitable habitat is not present. Thus, no direct, secondary, or cumulative effects would be anticipated.
5. This project area is located in Greater Sage-Grouse general habitat. This project was reviewed and approved by the Montana Sage Grouse Habitat Conservation Program on February 12, 2021. Proposed alteration and removal of coniferous forest vegetation would have minimal direct, indirect, or cumulative effects on greater sage grouse. To minimize potential negative effects to sage grouse associated with soil disturbance and noxious weed spread, control measures and seeding of roads with site-adapted grass seed would be required.
6. The project area provides suitable habitat for deer and elk. Under the proposed action, 176 acres of mature forest would have tree density and associated crown cover reduced, which could influence local use of the area by big game for several decades.

Relatively well stocked stands would remain on approximately 502 acres following the proposed harvest. However, the proposed salvage of downed trees and logs would promote movement through and use of the project area, which would likely be more difficult if dead and dying trees are left in a heavy jack-strawed condition over time. Given the location, size and type of the proposed activity, and habitat attributes found on the project area, minor adverse direct, indirect and cumulative effects to deer and elk associated with cover removal on these habitats would be anticipated.

Wildlife Mitigations:

- A minimum of one snag and one snag recruitment tree per acre, of the largest diameter class, would be retained. Cull live trees and cull snags would be retained where possible given human safety considerations.
- Retain at least one large log >15 inch diameter and >20 feet long (or of the largest diameter available) per acre to comply with lynx HCP commitment LY-HB2(1).
- Retain patches of advanced regeneration comprised of shade-tolerant tree species to provide habitat structure and maintain these tree species as a part of the stand species mix.
- All timber sale operations would be prohibited from April 1st thru June 15th annually. Project work would be completed in an expeditious manner to minimize disturbance.
- Following project work, existing and new restricted roads would remain closed to motorized public access.
- To minimize negative effects associated with soil disturbance and noxious weed spread on sage grouse, control of noxious weeds and seeding of roads with site-adapted grass seed would be required.

AIR QUALITY:

Air Quality	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Smoke	**x**				**x**				**x**				**N/A**	
Dust	**x**				**x**				**x**				**N/A**	
Action														
Smoke		**x**				**x**				**x**			**Yes**	**1**
Dust		**x**				**x**				**x**			**Yes**	**1**

Comments:

1. Smoke will be created from pile burning and dust may be created from log hauling operations.

Air Quality Mitigations:

1. Burning within the project area would be short in duration and would be conducted when conditions favor good to excellent ventilation and smoke dispersion as determined by the Montana Department of Environmental Quality and the Montana/Idaho Airshed Group. The DNRC, as a member of the Montana/Idaho Airshed Group, would burn only on approved days. If the Forest Officer considers the dust level as unacceptable where the haul route passes through areas frequented by the public, dust abatement may be stipulated.

ARCHAEOLOGICAL SITES / AESTHETICS / DEMANDS ON ENVIRONMENTAL RESOURCES:

Will Alternative result in potential impacts to:	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Historical or Archaeological Sites	**x**				**x**				**x**				**N/A**	
Aesthetics	**x**				**x**				**x**				**N/A**	
Demands on Environmental Resources of Land, Water, or Energy	**x**				**x**				**x**				**N/A**	
Action														
Historical or Archaeological Sites		**x**				**x**				**x**			**yes**	**1**
Aesthetics		**x**				**x**				**x**			**yes**	**2**
Demands on Environmental Resources of Land, Water, or Energy	**x**				**x**				**x**				**N/A**	

Comments:

1. Timber harvest activity and associated road work could disturb archaeological resources.
2. Timber harvest activity would cause both positive and negative impacts on aesthetics. Positive impacts include cleaning up dead standing timber and greening up of the hillsides with regeneration of both conifer and aspen stands. Negative impacts include visibility of road cuts, landings, slash piles and skid trails.

Mitigations:

1. Scoping letters were sent to those Tribes that requested to be notified of DNRC timber sales. The Northern Cheyenne THPO requested additional information and DNRC responded. A Class I (literature review) level review was conducted by the DNRC staff archaeologist for the area of potential effect (APE). This entailed inspection of project maps, DNRC's sites/site leads database, land use records, General Land Office Survey Plats, and control cards. The Class I search results revealed that several previous

cultural resource inventories have been conducted for the APE and no cultural or paleontological resources have been identified. Because of the lack of cultural resources in the APE, proposed timber harvest activities are expected to have *No Effect* to *Antiquities*. No additional archaeological investigative work will be conducted in response to this proposed project. However, if previously unknown cultural or paleontological materials are identified during project related activities, all work will cease until a professional assessment of such resources can be made.

2. Negative impacts on aesthetics would be mitigated by dispersing grass seed on road surfaces and landing areas promptly following the completion of harvest activities.

OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA: *List other studies, plans or projects on this tract. Determine cumulative impacts likely to occur as a result of current private, state or federal actions in the analysis area, and from future proposed state actions in the analysis area that are under MEPA review (scoped) or permitting review by any state agency.*

- DNRC. 1996. Environmental Impact Statement, Tepee Creek Timber Sale. 158 pp
- DNRC. 2004. Patchtop Timber Sale, Environmental Assessment. 61 pp
- DNRC. 2009. Snowshoe Post & Rail Timber Permit Checklist Environmental Assessment. 26 pp.

Impacts on the Human Population

Evaluation of the impacts on the proposed action including **direct, secondary, and cumulative** impacts on the Human Population.

Will Alternative result in potential impacts to:	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Health and Human Safety	**x**				**x**				**x**				**N/A**	
Industrial, Commercial and Agricultural Activities and Production	**x**				**x**				**x**				**N/A**	
Quantity and Distribution of Employment	**x**				**x**				**x**				**N/A**	
Local Tax Base and Tax Revenues	**x**				**x**				**x**				**N/A**	
Demand for Government Services	**x**				**x**				**x**				**N/A**	
Access To and Quality of	**x**				**x**				**x**				**N/A**	

Will Alternative result in potential impacts to:	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
Recreational and Wilderness Activities														
Density and Distribution of population and housing	**x**				**x**				**x**				**N/A**	
Social Structures and Mores	**x**				**x**				**x**				**N/A**	
Cultural Uniqueness and Diversity	**x**				**x**				**x**				**N/A**	
Action														
Health and Human Safety	**x**				**x**				**x**				**N/A**	
Industrial, Commercial and Agricultural Activities and Production	**x**				**x**				**x**				**N/A**	
Quantity and Distribution of Employment	**x**				**x**				**x**				**N/A**	
Local Tax Base and Tax Revenues	**x**				**x**				**x**				**N/A**	
Demand for Government Services	**x**				**x**				**x**				**N/A**	
Access To and Quality of Recreational and Wilderness Activities	**x**				**x**				**x**				**N/A**	
Density and Distribution of population and housing	**x**				**x**				**x**				**N/A**	
Social Structures and Mores	**x**				**x**				**x**				**N/A**	
Cultural Uniqueness and Diversity	**x**				**x**				**x**				**N/A**	

Comments: No direct, secondary, or cumulative impacts are expected as a result of the action alternative.

Mitigations: N/A

Locally Adopted Environmental Plans and Goals: *List State, County, City, USFS, BLM, Tribal, and other zoning or management plans, and identify how they would affect this project.*

- N/A

Other Appropriate Social and Economic Circumstances:

Costs, revenues and estimates of return are estimates intended for relative comparison of alternatives. They are not intended to be used as absolute estimates of return. The estimated stumpage is based on comparable sales analysis. This method compares recent sales to find a market value for stumpage. These sales have similar species, quality, average diameter, product mix, terrain, date of sale, distance from mills, road building and logging systems, terms of sale, or anything that could affect a buyer's willingness to pay.

No Action: The No Action alternative would not generate any return to the trust at this time.

Action: The timber harvest would generate additional revenue for the Common School Trust. The estimated return to the trust for the proposed harvest is $111,164.00 based on an estimated harvest of 1,340,000 board feet (11,164 tons) and an overall stumpage value of $10.00 per ton. Costs, revenues, and estimates of return are estimates intended for relative comparison of alternatives, they are not intended to be used as absolute estimates of return.

References

DNRC 1996. State forest land management plan: final environmental impact statement (and appendixes). Montana Department of Natural Resources and Conservation, Forest Management Bureau, Missoula, Montana.

DNRC. 2010. Montana Department of Natural Resources and Conservation Forested State Trust Lands Habitat Conservation Plan: Final EIS, Volume II, Forest Management Bureau, Missoula, Montana.

Does the proposed action involve potential risks or adverse effects that are uncertain but extremely harmful if they were to occur?
No

Does the proposed action have impacts that are individually minor, but cumulatively significant or potentially significant?
No

Environmental Assessment Checklist Prepared By:

Name: Riley Stevenson
Title: Unit Forester, Dillon Unit
Date: March 2022

Finding

Alternative Selected

Upon review of the Checklist EA and attachments, I find the Action Alternative, as proposed, meets the intent of the project objectives as stated in the *Type and Purpose of Action*. The lands involved in this project are held by the State of Montana in trust for the support of specific beneficiary institutions and DNRC is required by law to administer these trust lands to produce the largest measure of reasonable and legitimate return over the long run (*Enabling Act of February 22, 1889; 1972 Montana Constitution, Article X Section 11; and, 77-1-212 MCA*). The Action Alternative was designed to be in full compliance of the State Forest Lands Manage Plan (SFLMP), the Administrative Rules for Forest Management (Forest Management Rules; ARM 36.11.401 through 471), as well as other applicable state and federal laws.

Significance of Potential Impacts

The identified resource management concerns have been fully addressed in the environmental analysis that was conducted. Specific project design features and various recommendations of the resource management specialists have been implemented to ensure that this project will fall within the limits of acceptable environmental change. For example, the project is designed to:

- Incorporate Best Management Practices (BMP's) in the maintenance of 9.0 miles of existing road.
- Retain coarse woody debris to be left on site in amounts recommended by Graham, et.al (1994) and fine debris as much as practicable, maintaining nutrient cycling in harvest units, helping maintain soil productivity, as well as to provide habitat substrates for wildlife.
- Limit the area of adverse soil impacts, equipment operations would be limited to periods when soils are dry (<20% soil moisture), frozen or snow covered (12" packed or 18" unconsolidated) as well as limited to slopes <45%.
- Implement mitigation measures to reduce the proliferation of weeds including requiring all off-road equipment to be washed prior to operation on site, sowing grass seed on roads after harvest, and applying herbicide along roadsides and on spots of weed outbreaks.
- Retain at least 1 large snag and 1 large snag recruitment tree (largest size available) per acre within harvest units across the project area.
- Retain patches of advanced regeneration comprised of shade-tolerant trees species to provide habitat structure and maintain these tree species as a part of the stand species mix.
- Retain at least one large log >15-inch diameter or of the largest diameter available per acre.

Need for Further Environmental Analysis

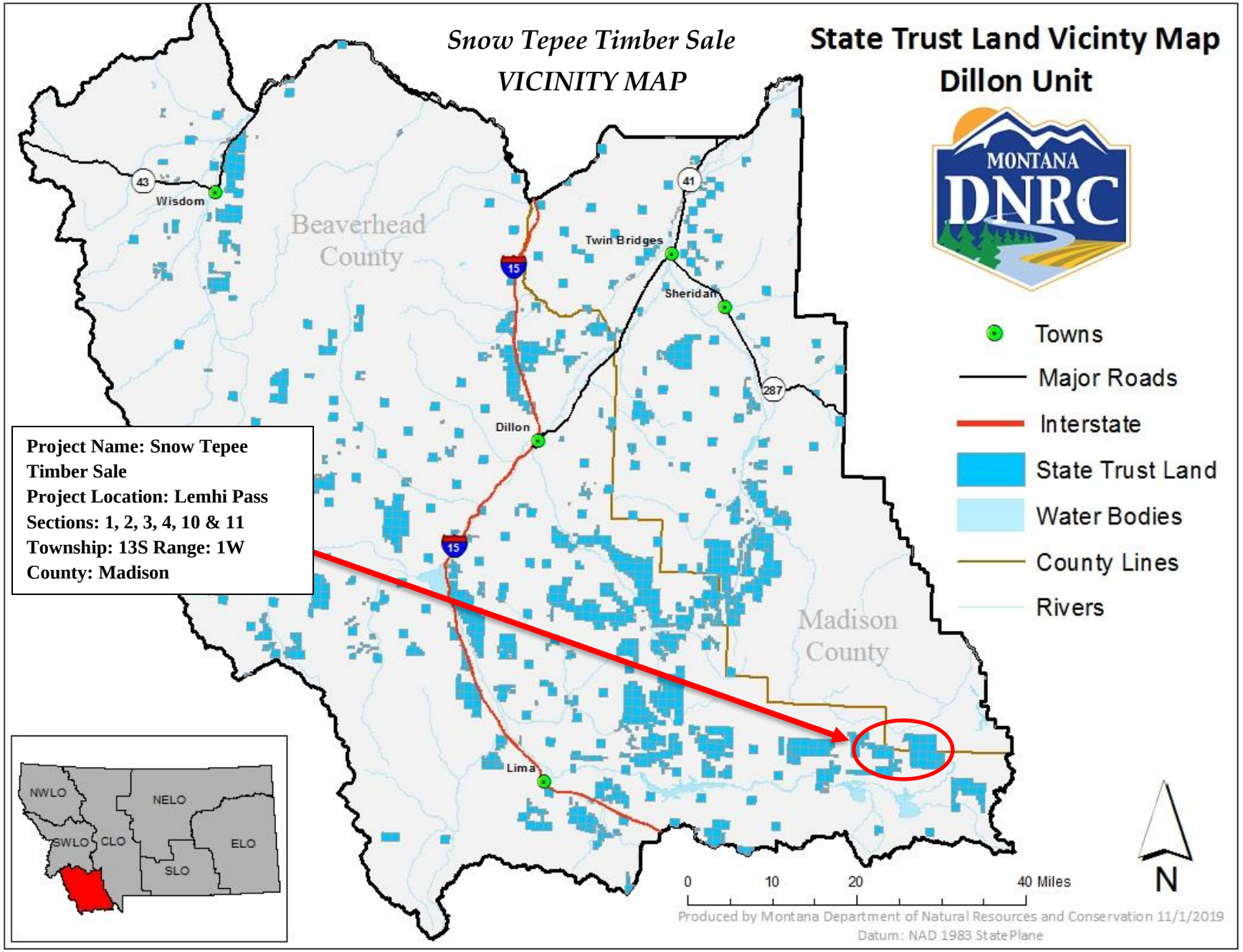
[ ]	EIS	[ ]	More Detailed EA	[X]	No Further Analysis

Environmental Assessment Checklist Approved By:

Name: Timothy Egan
Title: Dillon Unit Manager
Date: March 17, 2022
Signature: /s/ Timothy Egan

Attachment A - Maps

A-1: Timber Sale Vicinity Map



A-2: Timber Sale Harvest Units and Haul Route